Amendments to the Claims

Please cancel Claim 5 without prejudice or disclaimer.

Please amend Claims 1 and 8 to read as follows.

1. (Currently Amended) A printing apparatus which performs printing by scanning a carriage, which supports a printhead having a plurality of printing elements arrayed in a predetermined direction, relative to a printing medium in a direction perpendicular to the predetermined direction, comprising:

a printing data memory which stores printing data of a raster format;

a buffer memory which has a storage area corresponding to each printing element and stores printing data stored in said printing data memory;

a head parameter unit which stores information on both a number of concurrently drivable printing elements according to distributed driving for the printhead and a number of the plurality of printing elements;

a buffer controller which controls, in accordance with the information stored in said head parameter unit, processing of reading out the printing data stored in said printing data memory and storing the printing data in said buffer memory, and processing of reading out the printing data stored in said buffer memory; and

driving control means for controlling the distributed driving of the plurality of printing elements in the printhead according to the information stored in said head parameter unit,

wherein said buffer controller calculates a read address in accordance with the number of concurrently drivable printing elements in the distributed driving and the number of the plurality of printing elements in reading out the printing data stored in said buffer memory.

2. (Original) The apparatus according to claim 1, wherein the information stored in said head parameter unit includes at least the number of nozzle arrays of the printhead, the number of nozzles which constitute the nozzle arrays, and nozzles to be driven in the nozzle arrays.

3. (Original) The apparatus according to claim 1, wherein said buffer controller converts the raster data into column data in reading out the printing data stored in said buffer memory.

4. (Original) The apparatus according to claim 1, wherein said buffer controller reads out the printing data stored in said buffer memory from each address.

5. (Cancelled)

6. (Original) The apparatus according to claim 4, wherein said buffer controller includes a register which holds, by a plurality of addresses, data of predetermined bits read out by accessing each address of said buffer memory.

7. (Previously Presented) The apparatus according to claim 1, further comprising transfer means for transferring the data read out from said buffer memory to the printhead.

8. (Currently Amended) A printing data control method in a printing apparatus which performs printing by scanning a carriage, which supports a printhead having a plurality of printing elements arrayed in a predetermined direction, relative to a printing medium in a direction perpendicular to the predetermined direction, comprising:

a printing data storage step of storing printing data of a raster format in a printing data memory;

a buffer step of storing printing data stored in the printing data memory in a buffer memory having a storage area corresponding to each printing element;

a parameter storage step of storing information on both a number of concurrently drivable printing elements according to distributed driving for the printhead and a number of the plurality of printing elements in a head parameter unit;

a buffer control step of controlling, in accordance with the information stored in the head parameter unit, processing of reading out the printing data stored in the printing data memory and storing the printing data in the buffer memory, and processing of reading out the printing data stored in the buffer memory; and

a driving control step of controlling the distributed driving of the plurality of printing elements in the printhead according to the information stored in the head parameter unit,

wherein upon reading out the printing data stored in the buffer memory, a read address is calculated at said buffer control step in accordance with the number of concurrently drivable printing elements in the distributed driving and the number of the plurality of printing elements.

9. (Cancelled)